CD/2024

# Conference on Disarmament

1 July 2015

Original: English

**Canada**

**Working paper**

## Considering verification implications of fissile material definitions and of fissile material categories for future treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices

GE.15-10965 (E)

*1510965*

Please recycle

## Verification implications for different definitions of fissile material for which their production is banned for proscribed purposes

| *Definition of Fissile Material* | *What specific obligations would be covered?1* | *Relevant verification tools* | *Challenges to effective verification2* | *Potential verification risks/gaps to providing credible assurance on compliance* | *Observations* |
|---|---|---|---|---|---|
| 90% or more of U-235 or U-233 Pu containing more than 95% of Pu-239 | | | | | |
| Pu less than 80% Pu-238, 20% or more U-235 and/or U-233 (Un-irradiated Direct Use Material) | | | | | |
| Pu-239, U-233, U enriched in U-235 and U-233 (Special Fissionable Material) | | | | | |
| a specific isotopic composition, to be determined during negotiations based on the scope and verification requirements of the treaty | | | | | |
| Other Materials Covered (e.g Neptunium, Americium) | | | | | |

[1] This could include, inter alia, specific production activities and production facilities, that would be included in the scope of a production ban according to different fissile material definitions.

[2] This could include, inter alia, considerations related to national security and sensitive information, cost and resource questions, and technical capabilities.

## Verification implications of fissile material categories that could be included as part of the scope of a future Treaty

| *Functional Categories of Material* | *What specific obligations would be covered?3* | *Relevant Verification Tools* | *Challenges to effective verification* | *Potential verification risks/gaps to providing credible assurance on compliance* | *Observations* |
|---|---|---|---|---|---|
| Future Production of Fissile Material for Civilian Use | | | | | |
| Future Production of Fissile Material for Non-Proscribed Military Purposes | | | | | |
| Existing Stockpiles of Fissile Material for Civilian Use | | | | | |
| Existing Stockpiles of Fissile Material for Non-Proscribed Military Purposes | | | | | |
| Existing Stockpile Excess to Nuclear Weapon Requirements | | | | | |
| Existing Stockpiles Produced for Nuclear Weapons | | | | | |

[3] This could include, inter alia, obligations related to non-diversion, transfer, declarations and transparency, or material accountancy and control.